

*Please amend the specification as follows.*

Please replace the paragraph beginning at page 1, line 11, and ending at page 2, line 3, with the following.

Referring now to Figs. 1 to 5, a conventional recliner device for a vehicle seat will be discussed hereinafter in order to facilitate understanding of the present invention. As shown in Fig. 1, the conventional recliner device generally includes first brackets 1 provided at both sides of a seat back B of the vehicle seat and extending downwardly from the both sides of the seat back B, and second brackets 2 provided at both sides of a seat cushion C of the vehicle seat and extending rearwardly from the both sides of the seat cushion C. As shown in Fig. 2, the first brackets 1 (only one first bracket 1 is shown in Fig. 2) pivotally connected to the second brackets 2 (only one second bracket 2 is shown in Fig. 2) by causing lower end portions of the first brackets 1 to be disposed on inner surfaces of rear end portions of the second brackets 2 and causing the lower end portions of the first bracket ~~brackets~~ 1 to be coupled to the rear end portions of the second brackets 2 by means of supporting pins 3 (only one supporting pin 3 is shown in Fig. 2), so that the seat back B can be pivoted around the supporting pins 3 relative to the seat cushion C, that is, an attitude of the seat back B can be selectively changed to a vertically standing posture, a forwardly inclined posture or a rearwardly inclined posture.

Please replace the paragraph beginning at page 3, line 24, and ending at page 5, line 8, with the following.

In accordance with the present invention, there is provided a recliner device for a vehicle seat. The vehicle seat comprises a seat back and a seat cushion. The recliner device comprises a first bracket provided at a side of the seat back and extending downwardly from the side of the seat back, the first bracket having a lower end portion, a second bracket provided at a side of the seat cushion and extending rearwardly from the side of the seat cushion, the second bracket having a rear end portion, the first bracket being pivotally connected at the lower end portion thereof to the rear end portion of the second bracket by means of a supporting pin with the lower end portion thereof being overlapped on the rear end portion of the second bracket, whereby the seat back is pivotable around the supporting pin in such a manner that an attitude of the seat back is changed to a vertically standing posture, a forwardly inclined posture or a rearwardly inclined posture relative to the seat cushion, the lower end portion of the first bracket having spaced apart notches formed at a circumferential edge thereof so as to be coaxial with the supporting pin, a locking pin having an inner end portion and an outer end portion, the

locking pin penetrating the rear end portion of the second bracket so as to be axially movable and protruding toward the circumferential edge of the lower end portion of the first bracket, a spring mounted around the locking pin for urging the locking pin toward the circumferential edge of the lower end portion of the first bracket and causing the inner end portion of the locking pin to be engaged with any one of the notches, to thereby allow the seat back to be maintained in the vertically standing posture, the forwardly inclined posture or the rearwardly inclined posture, a receiving base mounted on an outer surface of the rear end portion of the second bracket and coaxially surrounding the operating locking pin, an operating means mounted to the outer end portion of the locking pin so as to be opposed to the receiving base, and cooperating cam surface means on the operating means and the receiving base. When the operating means is rotated relative to the receiving base, the locking pin is axially moved away from the circumferential edge of the lower end portion of the first bracket and then disengaged from the one of the notches with which the inner end portion of the locking pin has been engaged until now, whereby the seat back is allowed to be pivoted around the supporting pin.

Page 6: Please replace the paragraph beginning at line 11, with the following.

The first cam surface may comprise first and second axially extending surfaces spaced at intervals of about 180 degrees around the circumferential edge portion of the substantially cylindrical section, a first circumferentially sloping surface descending from a tip edge of the first axially extending surface to a root point of the second axially extending surface, and a second circumferentially sloping surface descending from a tip edge of the second axially extending surface to a root point of the first axially extending surface. The second surface may comprise third and fourth axially extending surface spaced at intervals of about 180 degrees around the circumferential edge portion of the ring-like ring-shaped receiving base, a third circumferentially sloping surface descending from a tip edge of the third axially extending surface to a root point of the fourth axially extending surface, and a fourth circumferentially sloping surface descending from a tip edge of the fourth axially extending surface to a root point of the third axially extending surface.

Please replace the paragraph beginning at page 7, line 7, and ending at page 8, line 4, with the following.

The receiving base may comprise a substantially plate-like plate-shaped body having a ring-like ring-shaped receiving portion. The substantially plate-like plate-shaped body is fixed

on the outer surface of the rear end portion of the second bracket with the ring-like ring-shaped receiving portion surrounding the locking pin. The cooperating cam surface means may comprise a first cam surface formed on a circumferential edge of the substantially cylindrical section which is opposed to a circumferential edge of the ring-like ring-shaped receiving portion, and a second cam surface formed on the circumferential edge of the ring-like ring-shaped receiving section. Each of the first and second cam surfaces may comprise two spaced apart crest portions and two spaced apart valley portions which are adapted to be releasably engaged with each other. Each of the crest portions has a height enough to allow the locking pin to be axially moved so as to be disengaged from the one of the notches of the first bracket. The first and second crest portions are spaced apart at intervals of about 180 degrees around the circumferential edge of the substantially cylindrical section. Each of the first and second spaced apart valley portions is disposed between the first and second crest portions and continuously connected to the first and second crest portions. The third and fourth crest portions are spaced apart at intervals of about 180 degrees around the circumferential edge of the ring-like ring-shaped receiving portion. Each of the third and fourth spaced apart valley portions is disposed between the third and fourth crest portions and continuously connected to the third and fourth crest portions.

Page 8: Please replace the paragraph beginning at line 5, with the following.

The operating knob may have a boss portion coaxial with the substantially cylindrical portion. The boss portion may be provided with an axially protruding piece. One of an inner surface of the axially protruding piece and an outer surface of the ring-like ring-shaped receiving portion may be formed with at least one linear groove. The other of the inner surface of the axially protruding piece and the outer surface of the ring-like ring-shaped receiving portion may be provided with at least one projection. The at least one groove and the at least one projection is adapted to be releasably engaged with each other.

Page 8: Please replace the paragraph beginning at line 14, with the following.

The plate-like plate-shaped body of the receiving base may have a dowel provided on a back side thereof and projecting from the bottom surface. The second bracket may have a dowel hole formed in the rear end portion thereof. The dowel of the receiving base is fitted in the dowel hole of the second bracket.

Please replace the paragraph beginning at page 12, line 20, and ending at page 13, line 3, with the following.

Referring to Fig. 8, the operating knob 70 is in the form of a handle lever and comprises a ~~cap-like~~ cap-shaped boss section 70a, a substantially cylindrical section 70b coaxial with the boss section 70a and extending axially from the boss section 70a, and a lever section extending radially from the boss section 70a. As shown in Fig. 7, the operating knob 70 is rotatably mounted on the pin holder 5 with the substantially cylindrical section 70b facing the receiving base 9 and with a top portion of the boss section 70a being attached to the outer end portion 4c of the locking pin 4 by means of a screw 8.

Page 13: Please replace the paragraph beginning at line 4, with the following.

The recliner device further includes cooperating cam surface means on the operating knob 70 and the receiving base 9. As shown in Fig. 8, the cooperating cam surface means comprises a first cam surface 10 on a circumferential edge portion of the substantially cylindrical section 70b of the operating knob 70 which is opposed to or faces a circumferential edge portion of the ~~ring-like~~ ring-shaped receiving base 9, and a second cam surface 20 on the circumferential edge portion of the ~~ring-like~~ ring-shaped receiving base 9. The first and second cam surfaces have the substantially same shape. More particularly, the first cam surface 10 of the substantially cylindrical section 70b of the operating knob 70 comprises first two opposite crest portions 10a spaced apart from each other at intervals of about 180 degrees around the circumferential edge portion of the substantially cylindrical section 70b, and first two opposite valley portions 10b each disposed between the first crest portions 10a and continuously connected to the first crest portions 10a. Similarly, the second cam surface 20 of the ~~ring-like~~ ring-shaped receiving base 9 comprises second two opposite crest portions 20a spaced apart from each other at intervals of about 180 degrees around the circumferential edge portion of the ~~ring-like~~ ring-shaped receiving base 9, and second opposite valley portions 20b each disposed between the second crest portions 20a and continuously connected to the second crest portions 20a.

Please replace the paragraph beginning at page 14, line 10, and ending at page 15, line 1, with the following.

When the person causes the operating knob 70 to be rotated around the pin-holder 5 in the clockwise direction or the counterclockwise direction while gripping the lever section of the operating knob 70, the first crest portions 10a of the operating knob 70 and the second crest

portions 20a of the ring-like ring-shaped receiving base 9 are shifted from the second valley portions 20b and the first valley portions 10b as shown in Fig. 10, respectively, whereby the locking pin 4 is axially moved away from the first bracket 1 against the action of the coil spring 6 and then disengaged from the one of the notches 1a - 1c of the first bracket 1 with which the locking pin 4 has been engaged until now. Thus, the seat back is brought into a pivotable condition relative to the seat cushion. Incidentally, each of the first and second crest portions 10a, 20a has a height enough to allow the locking pin 4 to be axially moved and then disengaged from the notches 1a - 1c of the first bracket 1. Therefore, both the clockwise directional movement of the operating knob and the counterclockwise directional movement of the operating knob can cause the locking pin 4 to be positively disengaged from the notches 1a - 1c.

Please replace the paragraph beginning at page 16, line 7, and ending at page 17, line 21, with the following.

Referring to Fig. 11, there is illustrated a modification of the cooperating cam surface means shown in Figs. 8 to 10. In this modification, the first cam surface 10 of the cylindrical section 70b of the operating knob 70 comprises first and second axially extending surfaces spaced at about 180° around the circumferential edge portion of the substantially cylindrical section 70b of the operating knob 70 which faces the circumferential edge portion of the ring-like ring-shaped receiving base 9, a first circumferentially sloping surface 100a descending from a tip edge of the first axially extending surface to a root point of the second axially extending surface, and a second circumferentially sloping surface 100b descending from a tip edge of the second axially extending surface to a root point of the first axially extending surface. Similarly the second cam surface 20 comprises third and fourth axially extending surfaces spaced at about 180° around the circumferential edge portion of the ring-like ring-shaped receiving base 9, a third circumferentially sloping surface 200a descending from a tip edge of the third axially extending surface to a root point of the fourth axially extending surface, and a fourth circumferentially sloping surface 200b descending from a tip edge of the fourth axially extending surface to a root point of the third axially extending surface. Due to the action of the coil spring, the first circumferentially sloping surface portion 100a and the second circumferentially sloping surface portion 100b of the operating knob 70 are always engaged with the third circumferentially sloping surface portion 200a and the fourth circumferentially sloping surface portion 200b of the receiving base 9, respectively, and the first axially extending surface and the second axially

extending surface are always engaged with the fourth axially extending surface and the third axially extending surface, respectively. Thus, in this modification, the operating knob 70 is constructed as a unidirectional operating knob. When the operating knob 70 is rotated in a direction indicated in Fig. 11 by an arrow, the first sloping surface portion 100a and the second sloping surface portion 100b are shifted from the third sloping surface portion 200a and the fourth sloping surface portion 200b, respectively, and the first axially extending surface and the second axially extending surface are disengaged from the fourth axially extending surface and the third axially extending surface, respectively, whereby the locking pin is moved away from the first bracket against the action of the coil spring and disengaged from the one of the notches of the first bracket with which the locking pin has been engaged till now. A length of each of the first, second, third and fourth axially extending surface is set so as to be larger than a stroke distance of the locking pin, so that the rotational movement of the operating knob is limited.

Please replace the paragraph beginning at page 20, line 10, and ending at page 21, line 9, with the following.

As discussed above, in the recliner device according to the first embodiment of the present invention, the substantially ~~ring-like~~ ring-shaped receiving base is fixed on the outer bracket, the pin holder is mounted in the substantially ~~ring-like~~ ring-shaped receiving base and fixed on the outer bracket, the locking pin is penetrated through the pin holder and the outer bracket, and always projected toward the inner bracket due to the action of the coil spring, and the operating knob is mounted to the outer end portion of the locking pin with the substantially cylindrical section thereof being rotatably mounted on the pin holder and with the end portion of the substantially cylindrical section thereof facing the receiving base. Due to the action of the coil spring, the locking pin is releasably engaged with any one of the notches formed in the inner bracket. The mating cam surfaces are formed on the side of the cylindrical section of the operating knob and the side of the receiving base which are opposed to each other. The mating cam surfaces include the crest portions having heights enough to allow the axial movement of the locking pin. When the person causes the operating knob to be rotated around the pin holder while gripping the lever section of the operating knob, the crest portions of the cam surface of the operating knob are shifted from the valley portions of the cam surface of the receiving base, whereby the locking pin is axially moved and then positively disengaged from the one of the notches of the inner bracket with which the locking pin has been engaged until now. Therefore, persons in a broad age-group including physically weak persons such as aged persons and children can easily handle the operating knob and easily cause the locking pin to be

disengaged from the one of the notches of the inner bracket.

Please replace the paragraph beginning at page 21, line 10, and ending at page 22, line 1, with the following.

Further, in the recliner device of Figs. 6 to 10, the first cam surface of the operating knob comprises the first and second crest portions spaced apart from each other around the circumferential edge portion of the substantially cylindrical section which is opposed to or ~~faces~~ faces the circumferential edge portion of the substantially ~~ring-like~~ ring-shaped receiving base, and the first and second valley portions each disposed between the first and second crest portions and continuously connected to the first and second crest portions. Similarly, the second cam surface of the substantially ~~ring-like~~ ring-shaped receiving base comprises the third and fourth crest portions spaced apart from each other around the circumferential edge portion of the substantially ~~ring-like~~ ring-shaped receiving base, and the third and fourth valley portions each disposed between the third and fourth crest portions and continuously connected to the third and fourth crest portions. Because of the shapes of the first and second cam surfaces, the operating knob can be rotated in both the clockwise direction and the counterclockwise direction. Therefore, the operating knob may be constructed as a type of operating knob that is drawn up and then rotated or is pushed down and then rotated.

Page 22: Please replace the paragraph beginning at line 2, with the following.

Furthermore, in the recliner device of Fig. 11, the first cam surface of the operating knob comprises the first and second axially extending surfaces spaced at about 180° around the circumferential edge portion of the substantially cylindrical section which ~~faces~~ the circumferential edge portion of the ~~ring-like~~ ring-shaped receiving base, the first circumferentially sloping surface descending from the tip edge of the first axially extending surface to the root point of the second axially extending surface, and the second circumferentially sloping surface descending from the tip edge of the second axially extending surface to the root point of the first axially extending surface. Similarly, the second cam surface of the ~~ring-like~~ ring-shaped receiving base comprises the third and fourth axially extending surfaces spaced at 180° around the circumferential edge portion of the ~~ring-like~~ ring-shaped receiving base, the third circumferentially sloping surface descending from the tip edge of the third axially extending surface to the root point of the fourth axially extending surface, and the fourth circumferentially sloping surface descending from the tip edge of the fourth axially extending surface to the root point of the third axially extending surface.

Because of the shapes of the first and second cam surfaces of the recliner device of Fig. 11, the operating knob of Fig. 11 can be constructed as a unidirectional knob.

Please replace the paragraph beginning at page 24, line 9, and ending at page 25, line 1, with the following.

Referring to Fig. 15, a receiving base 90 having a substantially ~~ring-like~~ ring-shaped receiving section 90a is fixed on an outer surface of the rear end portion of the second bracket 2 with the ~~ring-like~~ ring-shaped receiving section 90a surrounding the locking pin 4. A pin-holder 5 of a substantially cylindrical shape is mounted in the ~~ring-like~~ ring-shaped receiving section 90a of the receiving base 90 so as to surround the locking pin 4, and fixed on the outer surface of the rear end portion of the second bracket 2. An outer end portion 4c of the locking pin 4 is penetrated through the pin-holder 5 and projects outwardly from the pin-holder 5. The pin-holder 5 has an inwardly facing circumferential flange portion 5a. The locking pin 4 is provided with a circumferential flange 4b. A coil spring 6 is mounted around the locking pin 4 and disposed between the circumferential flange 4b of the locking pin 4 and the inwardly facing circumferential flange portion 5a of the pin-holder 5, whereby the locking pin 4 is always urged in such a direction as to be operatively engaged with the engaging notches 1a to 1c of the first bracket 1. A ~~cap-like~~ cap-shaped boss section 70a of an operating knob 70 which will be discussed in greater detail hereinafter is secured to the outer end portion 4c of the locking pin 4 by a screw 8.

Page 25: Please replace the paragraph beginning at line 2, with the following.

As shown in Fig. 16, the receiving base 90 has a ~~plate-like~~ plate-shaped base body of a substantially elongated ellipse shape, at one end portion of which the ~~ring-like~~ ring-shaped receiving section 90a is provided. A fixing-hole 90b is formed in the other end portion of the base body. As shown in Fig. 15, the receiving base 90 is mounted on the outer surface of the second bracket 2 by causing a screw 30 to be inserted into the fixing-hole 90b and causing the receiving base 90 to be secured to the second bracket 2 using the screw 30. The base body further has a dowel 90c projecting from a back side of the base body of the receiving base 90. The dowel 90c of the receiving base 90 is fitted in a dowel hole 2a formed in the second bracket 2, whereby the receiving base 90 is positioned with respect to the second bracket 2.



Please replace the paragraph beginning at page 25, line 13, and ending at page 26, line 2, with the following.

As shown in Fig. 17, the operating knob 70 is in the form of a handle lever and comprises the ~~eap-like~~ cap-shaped boss section 70a briefly discussed above, a substantially cylindrical section 70b coaxial with the boss section 70a and axially extending from the boss section 70a, and a lever section extending radially from the boss section 70a. The substantially cylindrical section 70b has a receiving portion 70c provided therein for receiving the outer end portion 4c of the locking pin 4. The knob 70 is rotatably mounted on the pin-holder 5 with the boss section 70a being secured to the outer end portion 4c of the locking pin 4 by the screw 8 (see Fig. 14) as discussed above and with the substantially cylindrical section 70b being opposed to the receiving section 90a of the receiving base 90. The ~~eap-like~~ cap-shaped boss section 70a is provided with an elongated protruding piece 70d extending axially from the ~~eap-like~~ cap-shaped boss section 70a. The protruding piece 70d has two linear grooves 70d' formed in an inner surface thereof and extending along a longitudinal direction of the protruding piece 70d.

Please replace the paragraph beginning at page 26, line 3, and ending at page 27, line 8, with the following.

As shown in Figs. 16 to 18, a first cam surface 10 is formed on a circumferential edge portion of the substantially cylindrical section 70b of the operating knob which is opposed to or faces a circumferential edge portion of the ~~ring-like~~ ring-shaped receiving portion 90a of the receiving base 90, and a second cam surface 20 is formed on the circumferential edge portion of the ~~ring-like~~ ring-shaped receiving portion 90a of the receiving base 90. The first cam surface 10 of the substantially cylindrical section 70b of the operating knob 70 comprises first spaced apart opposite crest portions 10a and first valley portions 10b disposed between the first crest portions 10 and continuously connected to the first crest portions 10a. Similarly, the second cam surface 20 of the ~~ring-like~~ ring-shaped receiving portion 90a of the receiving base 90 comprises second spaced apart opposite crest portions 20a and second valley portions 20b disposed between the second crest portions 20a and continuously connected to the second crest portions 20a. One of the crest portions 20a has two vertically extending projections 90d (see Fig. 16) provided on an outer surface thereof. In a condition where the inner portion 4a of the locking pin 4 is engaged with any one of the notches 1a - 1c of the first bracket 1, the first crest portions 10a of the operating knob 70 and the second crest portions 20a of the receiving base 90 are engaged with the second valley portions 20b of the receiving base 90 and the first valley

portions 10a of the operating knob 70, respectively, and the grooves 70d' of the operating knob 70 are engaged with the projections 90d of the receiving base 90. Incidentally, while the grooves 70d' are formed in the protruding piece 70d of the operating knob 70 and the projections 90d are provided on the receiving portion 90a of the receiving base 90 in the illustrated example, the grooves 70d' may be formed in the receiving portion 90a of the receiving base 90 and the projections 90d may be provided on the protruding piece 70d. Furthermore, in the illustrated example, the number of the grooves 70d' is two and the number of the projections 90d is two. However, it will be understood that the number of the grooves 70d' and the number of the projections 90d are not limited to two, and may be at least one.

Page 30: Please replace the paragraph beginning at line 1, with the following.

While the handle-type operating knob 70 is employed in the second embodiment of the present invention, a dial-type operating knob 71 shown in Fig. 21 may be employed. In this case, a side of the dial-type operating knob 71 which is opposed to or faces the ring-like ring-shaped receiving portion 90a of the receiving base 90 is provided with a first cam surface which is formed in the same manner as the first cam surfaces surface 10 of Fig. 17 is done, and is releasably engaged with the second cam surface of the receiving base 90.

Please replace the paragraph beginning at page 30, line 24, and ending at page 31, last line, with the following.

As discussed above, in the recliner device according to the second embodiment of the present invention, the plate-like plate-shaped receiving base is fixed on the outer bracket with the substantially ring-like ring-shaped receiving portion thereof surrounding the locking pin, the pin holder is mounted in the substantially ring-like ring-shaped receiving base and fixed on the outer bracket, the outer end portion of the locking pin projects outwardly from the pin holder, the inner end portion of the locking pin always projects toward the edge of the end portion of the inner bracket due to the action of the coil spring, and the operating knob is mounted on the outer end portion of the locking pin with the substantially cylindrical section thereof being rotatably mounted on the pin holder and with the end portion of the substantially cylindrical section thereof facing the receiving base. The locking pin is releasably engaged with any one of the notches formed in the inner bracket, by the action of the coil spring. The mating cam surfaces are formed on the side of the cylindrical section of the operating knob and the side of the receiving base which are opposed to or face each other. The mating cam surfaces include the crest portions having heights enough to allow the axial movement of the locking pin.

When the person causes the operating knob to be rotated around the pin holder while gripping the lever section of the operating knob, the crest portions of the cam surface of the operating knob are shifted from the valley portions of the cam surface of the receiving base, whereby the locking pin is axially moved and then positively disengaged from the one of the notches of the inner bracket with which the locking pin has been engaged until now. Therefore, persons in a broad age-group including physically weak persons such as aged persons and children can easily handle the operating knob and easily cause the locking pin to be disengaged from the one of the notches of the inner bracket.

Page 32: Please replace the paragraph beginning at first line, with the following.

Furthermore, in the recliner device according to the second embodiment, the first cam surface of the operating knob comprises the first and second crest portions spaced apart from each other around the circumferential edge portion of the substantially cylindrical section which is opposed to or ~~face~~ faces the circumferential edge portion of the substantially ~~ring-like~~ ring-shaped receiving base, and the first and second valley portions each disposed between the first and second crest portions and continuously connected to the first and second crest portions. Similarly, the second cam surface of the substantially ~~ring-like~~ ring-shaped receiving base comprises the third and fourth crest portions spaced apart from each other around the circumferential edge portion of the substantially ~~ring-like~~ ring-shaped receiving base, and the third and fourth valley portions each disposed between the third and fourth crest portions and continuously connected to the third and fourth crest portions. Because of the shapes of the first and second cam surfaces, the operating knob can be rotated in both the clockwise direction and the counterclockwise direction. Therefore, the operating knob may be constructed as a type of operating knob that is drawn up and then rotated or is pushed down and then rotated.

Please replace the paragraph beginning at page 32, line 19, and ending at page 33, line 10, with the following.

Furthermore, in the second embodiment of the present invention, the ~~eap-like~~ cap-shaped boss section is provided with the elongated protruding piece which extends axially from the ~~eap-like~~ cap-shaped boss section and has at least one linear groove formed in the inner surface of the protruding piece, and the one of the crest portions of the receiving base has at least one vertically extending projection. The at least one groove of the operating knob is releasably engaged with the at least one projection of the receiving base. In a condition where the groove of the operating knob is disengaged from the projection of the receiving base, when

the operating knob is returned to its original position due to the action of the coil spring and the person then rotates the operating knob in such a direction as to cause the groove of the operating knob to be engaged with the projection of the receiving base, whereby the groove of the operating knob are is again engaged with the projection of the receiving base while producing clicking sounds. Thus, the person can make sure that the locking pin is projected toward the edge of the lower end portion of the first bracket and positively engaged with any one of the notches of the first bracket.

Page 33: Please replace the paragraph beginning at line 11, with the following.

Furthermore, in the second embodiment, the substantially ~~plate-like~~ plate-shaped base body of the receiving base has the dowel projecting from the back side of the base body of the receiving base, and the dowel of the receiving base is fitted in the dowel hole formed in the second bracket, whereby the receiving base is positively positioned with respect to the second bracket.